

**Comment Letter AF008 Continued**

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PEIS indicates that "some areas require the development of an express loop and mainline alignment (p. 3.8-14)." Although other corridor alignments in the train system are proposed to pass through urbanized areas (Los Angeles to San Diego, Bay Area to Merced, etc.), the only city bypasses proposed are located in the Central Valley. The justification for bypassing communities is critical in light of the additional impacts to resources that would result from bypassing each community in the Central Valley.

The Tier 1 Draft PEIS estimates the "lowest potential impacts" associated with the proposed express loops and "mainline" high speed train system through the Sacramento to Bakersfield corridor, assuming a 100-foot-wide corridor. As shown in Table 3.8-2, the "mainline" train system would impact far fewer acres of farmland than a train system with a network of both bypasses and mainline routes. For example, the Modesto "mainline" route would impact 49 acres of prime farmland, while the bypass would impact an additional 141 acres of prime farmland. EPA recognizes that the impacts to farmlands can be minimized by reducing the size of the right-of-way to 50 feet and sharing track, where feasible. We also recognize that providing bypasses around cities offers a method to increase speed throughout the entire route and to reduce noise within established communities. However, the introduction of express bypasses throughout the Central Valley would significantly increase farmland severances, acres of farmland impacted, and introduce an additional source of noise and visual impacts to adjacent communities. EPA has objections with the proposal to route the high speed train network both through and around communities in the Central Valley and recommends reducing the impacts that the train system will have in this region by minimizing total miles of train track required for system operation.

**Recommendations:**

Clarify why express loop construction is warranted in each community in light of additional farmland impacts and noise and visual impacts. Because the bypasses are proposed to circumvent the more congested urban areas, reduce costs, and reduce potential urban impacts such as noise, the Final PEIS should examine additional less-damaging measures, other than city bypasses, to reduce urban impacts. Identify the operational constraints in the Central Valley that require the train system to bypass communities in the context of the other regions of the train system where no bypasses are proposed.

EPA recommends that FRA and CHSRA commit to analyzing Central Valley routes with and without bypasses in the Tier 2 Environmental Impact Statement in order to disclose to decision makers the full impact of bypasses and to provide flexibility in determining the best mix of bypass and mainline routes. In the Final PEIS, identify strategies to pursue agreements with existing rail operators to share right-of-way to further minimize impacts to farmlands.

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**Impact Analysis Methodology**

The "envelope" approach used to estimate the potential impacts to biological and water resources attempts to address effects that may occur at a distance from the direct impacts of the project. The width of the envelope was altered depending on the sensitivity of the particular location associated with the train route. The Draft PEIS does not, however, clearly identify what specific portions of each alignment are deemed sensitive and what characteristics support the sensitivity rating. A sensitivity rating is not applied consistently across regions.

**Recommendations:**

For the analysis of impacts to biological and water resources, define "sensitive" areas and justify why specific areas within the high speed train alternative alignment were determined to be sensitive by describing the characteristics that support this designation. Apply the sensitivity designations consistently across all regions. Provide a figure or map depicting where sensitive areas are and where other modifications to the envelope approach are provided (i.e., developed and undeveloped areas, p. 3.15-4). Overlay this map with sensitive species occurrences and waters of the United States, so that it is clear which areas are considered sensitive and granted a wider study area.

The "envelope" approach and method of reporting impact values results in values that are quite large and not useful for decision making (e.g., 9,627 acres of impact to wetlands along the San Jose to San Francisco alignment for the high speed train alternative alone). EPA recognizes that the values presented offer a basis for understanding the existing environment and potential indirect impacts, rather than the direct impacts of a proposed train system. However, because these large impact values obscure an understanding of potential direct impacts resulting from the project, quantified estimates that more accurately reflect potential direct impacts to biological and water resources are necessary to understand potential impacts.

**Recommendations:**

Distinguish direct and indirect impacts to biological and water resources in the Final PEIS (see 40 CFR 1508.8(b)). Discuss which resources are indirectly impacted by the project footprint and how they are affected (e.g., reduced hydrologic connectivity, habitat fragmentation, headcutting and downcutting from culverts, changes in sediment transport capacity, etc.). As discussed in previous interagency meetings, EPA recommends including an additional analysis of the potential direct impacts to resources by assuming impacts to all resources within a potential 50-foot right-of-way and compare these values to potential indirect impacts already presented.

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Water Resources

As described above, the Clean Water Act Section 404(b)(1) Guidelines at 40 CFR Part 230.10(a) state that "...no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." FRA and CHSRA should demonstrate that each alignment moved forward to the Tier 2 stage is most likely to contain the least environmentally damaging practicable alternative, consistent with our Interagency MOU.

Recommendations:

Identify all protected resources with special designations and all special aquatic sites and waters within state, local, and federal protected lands. If these resources cannot be avoided, the Draft PEIS should clearly demonstrate how cost, logistical, or technological constraints preclude avoidance and minimization of impacts for alternatives that are advanced to Tier 2.

March Air Reserve Base to Mira Mesa

EPA is concerned with potential impacts to the Santa Margarita Ecological Reserve and the Santa Margarita River. The river is not listed on p. 3.15-14 as a water resource, although it is listed on p. 3.15-17 as a wildlife corridor. The Draft PEIS does not disclose what impacts the proposed route would have on the Santa Margarita River and other habitat and wildlife movement corridors between March Air Reserve Base and Mira Mesa.

Recommendations:

Describe the impact of the proposed high speed train alignment to the Santa Margarita River and Ecological Reserve and to the wildlife habitat and movement corridors in this region. Identify techniques and design variations to avoid these resources.

Carroll Canyon and Miramar Road

The two inland routes proposed for connecting Mira Mesa to San Diego may affect downstream lagoons. A high speed train route through Carroll Canyon will affect the ability of this floodplain to absorb seasonal and annual flooding, will increase erosion and sedimentation, and may negatively impact the water quality of the downstream Los Penasquitos Lagoon. P. 3.15-28 states that the Carroll Canyon route would affect more vernal pools and more non-wetlands waters than the Miramar Road route. Each Mira Mesa to San Diego route has the potential to impact multiple rare vernal pools in San Diego County. Because of the rarity of the vernal pools, these impacts are an important factor for eliminating alignments in Tier 1.

Recommendations:

EPA recommends avoiding placement of a high speed train route in canyons due to the significant permitting challenges such alternatives may face as a result of large amount of cut and fill, increased erosion and sedimentation, and downstream impacts.

Disclose the number and location of individual vernal pools and larger vernal pool complexes that would be affected by each remaining alignment.

Designated Impaired Waters

Under Section 303(d) of the Clean Water Act, the State of California has developed a list of impaired water bodies and a categorization of the reasons for their impairment. Direct and indirect impacts from the construction and operation of the high speed train system and additional road, station, and electrification infrastructure may add to current water quality problems and further impair beneficial uses.

Recommendations:The Final PEIS should:

- Identify all 303(d) listed streams that are within the area of potential impact of the proposed project and identify the impairments to beneficial uses.
- Disclose whether the filling of these waters, or the project's "temporary" construction impacts, will aggravate impairments to these water bodies.
- Provide an estimate of the linear feet/acres of impaired streams and waterbodies that would be affected by the project.
- Outline the methods that FRA and CHSRA will use to limit further impairment of waters.

Cumulative Impacts AnalysisContext for Understanding Cumulative Impacts

The cumulative impacts analysis provided in the Draft PEIS is, essentially, a summation and comparison of the direct and indirect impacts of the proposed alternatives. The cumulative impacts analysis should provide the context for understanding the magnitude of the impacts of the alternatives by analyzing the impacts of other past, present, and reasonably foreseeable projects or actions and then considering those cumulative impacts in their entirety. Where adverse cumulative impacts are identified, the Draft PEIS should disclose the parties that would be responsible for avoiding, minimizing, and mitigating those adverse impacts (CEQ's Forty Most Frequently Asked Questions #19). For some resources, the Draft PEIS identifies opportunities to avoid or minimize impacts through future project-level modifications. At the program-level, however, the Draft PEIS should focus on identifying landscape-level opportunities to avoid and minimize impacts, which may include working with other entities.

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## Recommendations:

## For each resource analyzed:

- Identify the current condition of the resource as a measure of past impacts. For example, the percentage of wetlands lost to date.
- Identify the trend in the condition of the resource as a measure of present impacts. For example, the health of the resource is improving, declining, or stasis.
- Identify the future condition of the resource based on an analysis of the cumulative impacts of reasonably foreseeable projects or actions added to existing conditions and current trends.
- Assess the cumulative impacts contribution of the proposed alternatives to the long-term health of the resource, and provide a specific measure for the projected impact from the proposed alternatives. For example, the Draft PEIS identifies the Modal alternative as having a "high potential impact on air quality" (p. 3.17-3). The qualitative description of "high" should be correlated with specific measure of air quality (e.g. atmospheric concentration of criteria pollutants) and placed within discrete categories defined using these measurements.
- Disclose the parties that would be responsible for avoiding, minimizing, and mitigating those adverse impacts.
- Identify landscape-level opportunities to avoid and minimize impacts, including working with other entities.

AF008-19  
cont.*Projects Considered in the Cumulative Impacts Analysis*

The Draft PEIS correctly cites the 40 CFR Section 1508.8 definition of a cumulative impacts analysis as one that analyzes the direct and indirect effects of the proposed project or action added to the impacts of other past, present, and reasonably foreseeable projects/actions, regardless of what agency or person undertakes such projects or actions (p. 3.17-1). However, the Draft PEIS primarily considers other transportation projects and only a few non-transportation infrastructure projects and a single development project (Appendix 3.17-A). Other reasonably foreseeable development activities by public or private entities are not considered in this analysis. As an example, for the Merced region, the Draft PEIS currently only considers the development of the new University of California campus in Merced in the analysis. Other reasonably foreseeable projects identified within and around the City of Merced, as indicated in city and county planning documents, should be included in the analysis.

AF008-20

## Recommendations:

Include other reasonably foreseeable development activities identified in relevant city and county planning documents in the cumulative impacts analysis. For example, use the General Plan "projection" approach described in the Draft PEIS (p. 3.17-1) to project the environmental impacts of development activities in communities and counties traversed by the proposed alternatives.

*Study Area and Methodology*

The cumulative impacts analysis provides an assessment of impacts on a statewide basis only. While a macro approach to cumulative impacts is appropriate at this program-level, the inclusion of General Plan information should allow FRA and CHSRA to differentiate the severity of cumulative impacts to some resources by region.

With the exception of the Air Quality section (p. 3.17-2), the cumulative impacts analysis does not disclose the study areas or methodologies used to analyze cumulative impacts by resource. The Council on Environmental Quality handbook Considering Cumulative Effects Under the National Environmental Policy Act (1997) provides direction on the establishment of cumulative impacts study areas by resource and the selection of appropriate methodologies for the analysis.

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## Recommendations:

Where possible, provide cumulative impacts assessments at the regional level, as well as the statewide level. For each resource, clearly identify the cumulative impacts study area and methodology utilized in the analysis. If the study areas and methodologies are the same as utilized elsewhere in the Draft PEIS, please provide a reference, as well as support for using the same study area and methodology in the project analysis as in the cumulative impacts analysis.

*Cumulative Impacts to Waters*

The Hydrology and Water Resources Section of the Cumulative Impacts Analysis does not discuss the quality, or values and functions, of waters potentially impacted by the alternatives. This section appears to treat all water resources equally. However, water resources in relatively undeveloped areas tend to be of higher quality. This is an important distinction that needs to be made in the program-level analysis.

AF008-22

## Recommendations:

Address the cumulative impacts to high quality water resources. The conclusion that the high speed train alternative could have fewer impacts on floodplains and water resources than the Modal alternative through design modifications (p.3.17-8), needs to account for the comparative impact of the high speed train alternative and Modal alternatives on high quality water resources.

Indirect Impacts

EPA commends FRA and CHSRA for focusing attention in the Draft PEIS to growth-inducing effects of the high speed train system and for completing a technical report in 2003 on this subject. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable and may include growth inducing effects (40 CFR

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Part 1508.8). The growth inducing effects presented assumed a higher density of development around high speed train stations (p. 5-34). The Draft PEIS should discuss the basis for this land use assumption.

**Recommendations:**

Identify station locations that are currently zoned for high density development and those that are not. Disclose how, should higher density development not occur as modeled in the Draft PEIS, impacts would differ from those presented in Chapter 5. Discuss the nature of those impacts to environmental resources of concern. Address potential mitigation efforts to avoid and minimize impacts to the communities identified, including incentives for transit-oriented development, measures to increase the capacity of city/county planning efforts, and mechanisms to encourage transit oriented development.

Growth inducing impacts resulting from the different alignment options within the high speed train alternative are sometimes presented as differences on a statewide scale, rather than at a local level. The data presented is not sufficient to differentiate between alignments presented for the high speed train alternative at this Tier 1 level. For example, page 5-32 states that "impacts to biological species from the Palmdale, Diablo Range direct, and Irvine alignment scenarios are projected to exhibit nearly identical levels of potential impact on possible threatened and endangered species habitat" when compared to the other high speed train alignments. A similar summary is provided for wetlands potentially affected by induced growth. For both biological species and wetlands, it is critical to provide more station- and alignment-specific information if the intent of the Draft PEIS is to determine which high speed train alternative alignment option is less environmental damaging.

**Recommendations:**

Clarify the environmental impacts anticipated from induced growth in and near the Palmdale, Diablo Range Direct Alternative, Irvine, East Bay, and outlying stations scenarios. Present all impacts associated with each station location. Include a table identifying growth-inducing impacts expected from each alignment. Also, where supporting data is lacking, as in the Diablo Direct alignment, the analysis should be conservative and assume presence of all species designated rare, threatened and/or endangered under state and federal laws based on presence of appropriate habitat.

**Tunneling Methodology and Impacts**

The proposed high speed train system would result in 23 to 43 miles of tunneling for the northern and southern mountain crossings (Section 6.21 and 6.41). This would require extensive earthmoving and result in large amounts of material being removed from mountainous terrain. The Draft PEIS does not disclose an approximate amount of material to be removed per mile of tunnel and where material could be disposed or stored. The Draft PEIS also does not address the

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types of tunneling methods and material removal, the need for additional road access, or the need for any exploratory drilling. A general discussion of the methodology to be utilized and the corresponding environmental impacts is appropriate in the Tier 1 Draft PEIS to ensure that the full scope of environmental impacts associated with tunneling are disclosed.

**Recommendations:**

To the extent that impacts of tunneling is relevant to the selection of alternatives in Tier 1, discuss the methodology proposed for tunneling associated with the high speed train system alternative, including equipment and planned locations for staging tunnel operations. Identify how the tunnel equipment will be transported to each site where tunneling will begin. Identify the amount of material to be removed per mile tunnel. Estimate the number of temporary roads required for each mile of tunnel construction and proposed methods for removal and revegetation of these roads. Estimate the miles of roads required for operation and access for emergency personnel in tunneled areas. Disclose the environmental impacts of the additional information presented regarding tunneling in the appropriate PEIS section.

The Draft PEIS states that the tunnels in the high speed train system "could avoid or substantially reduce surface impacts on sensitive biological resources except at tunnel portal areas (p. 3.15-20)." The impacts of linear transportation projects on wildlife movement are presumed to be minimized in the areas where tunneling will occur. FRA and CHSRA should provide support for the assumption that the length and location of tunneling proposed will be adequate to sustain regional wildlife populations and movement corridors.

**Recommendation:**

Provide supporting evidence regarding tunneling of the high speed train and associated impacts regarding wildlife movement.

The assumptions that the use of tunnels will "avoid some groundwater resources" and "not substantially affect groundwater resources" are not fully explained (p. 3.14-13, 3.14-16). Discharges of shallow subsurface storm flow and shallow groundwater can be important contributors to surface flows of streams, particularly in the mountainous areas where tunneling for the high speed train system is proposed (Mount 1995, Dunne and Leopold 1978, Atkinson 1978). Should tunneling obstruct these subsurface flows, we would expect to see a reduction in frequency and duration of surface flows and, consequently, in the stream's capacity to support riparian ecosystems. A decrease in groundwater levels during the growing season in a dry year could intensify the effects of drought on sensitive riparian communities.

**Recommendations:**

Discuss the potential impacts of tunneling on the maintenance of stream flows. Address

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the potential for tunneling to affect riparian habitat, the direction of lateral movement of water through the soil profile, and the recharge of shallow, unconfined aquifers.

**Biological Resources**

The Draft PEIS does not consistently address wildlife corridor impacts from the high speed train alternative and it does not summarize the overall effect of miles of continuous barrier to animal movement that a fully grade-separated train system would cause. For example, the Draft PEIS states that because a proposed alignment is along existing rail corridors, "little impact on movement/migration routes would be anticipated (p. 3.15-21)." The Draft PEIS does not discuss how proposed restrictions to crossing high speed train tracks (fences, etc.) may limit wildlife movement, even along existing rail corridors (Jackson, 2000).

**Recommendations:**

Identify landscape-level wildlife movement corridors and discuss proposed methods for protecting these corridors (see Morse, 2003). Outline how FRA and CHSRA plan to mitigate impacts by preserving ecological processes related to landscape continuity. Identify what connections would likely remain after an area is developed following construction of the high speed train system and highlight these areas as "connectivity zones" for future Tier 2 analysis. Disclose how fencing the train route will affect wildlife movement and discuss how fencing for safety purposes will be integrated with wildlife passages identified (culverts, bridges, viaducts, underpasses, overpasses, etc.).

The Draft PEIS indicates that a station at March Air Reserve Base would potentially impact 90 acres of coastal sage scrub habitat (Appendix 3.15.D-13). It is unclear why a station at this location would result in such large impacts and methods to minimize impacts are not discussed. Given the fact that much previously disturbed habitat exists in the area of March Air Reserve Base, it may be possible to locate a station without impacting undisturbed coastal sage scrub.

**Recommendations:**

Clarify the impacts associated with a proposed station at March Air Reserve Base and describe why this location would result in such large impacts to coastal sage scrub.

**Noise and Vibration Impacts**

The Draft PEIS assesses noise and vibration exposure to determine high, medium, and low severity of impacts to residences and other locations near the proposed high speed train route. Potential impacts to human health and welfare are important with a project of this magnitude, particularly in light of the maximum speed and resulting sounds and vibrations that the high speed train will produce throughout the train route. While noise impacts are addressed

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at a Tier 1 level, the Draft PEIS does not address nocturnal and diurnal impacts to wildlife activities such as foraging, predator avoidance, and nesting that may be affected by new sounds and vibrations introduced to natural habitats.

**Recommendations:**

Identify anticipated noise and vibration impacts to nocturnal and diurnal wildlife activities and address the impacts of new sounds introduced to natural habitats. Discuss methods utilized to mitigate noise and vibration impacts in countries where high speed trains pass in close proximity to natural areas.

**Mitigation and Avoidance**

The Draft PEIS provides little discussion of the potential mitigation measures or approaches which could be used to address the significant impacts associated with the proposed actions. While it may be premature to identify specific mitigation actions until a more clear understanding of the impacts is evaluated at the project level, the Final PEIS should propose reasonable mitigation measures or identify a suite of mitigation approaches that FRA and CHSRA could take to address the environmental impacts at the program scale. This programmatic, landscape-level plan provides an opportunity to identify and generally describe potential mechanisms to promote regional and statewide cooperation in identification of methods to avoid and minimize impacts to environmental resources and to mitigate those impacts that cannot be avoided. (See Forty Most Asked Questions Concerning CBQ's National Environmental Policy Act Regulations, March 23, 1981, Question #19b).

**Recommendations:**

Outline the strategy that FRA and CHSRA will follow to work with cities and counties to plan landscape-level mitigation strategies as well as site-specific strategies (i.e., transit-oriented development around proposed station locations, and mitigation for community severance). Identify potential partnership opportunities and strategies for Tier 2 project development.

**Relationship to Other Plans**

EPA understands that a separate Draft EIS for the Los Angeles to San Diego (LOSSAN) corridor and planned improvements will be available for public comment sometime in 2004. EPA will be providing comments on the LOSSAN corridor at that time. The Draft PEIS for the high speed train alternative should be clear in the description of what decisions this Final PEIS and Record of Decision will make regarding LOSSAN improvements and what decisions the subsequent stand-alone Draft EIS for LOSSAN will make.

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The Draft PEIS for the high speed train does not fully discuss the magnetic levitation proposal for high speed train service in Southern California and the need for both steel-wheel on steel-rail technology proposed for this project and the magnetic levitation technology proposed for a separate high speed train project in southern California. A full discussion of this issue and potential duplication of efforts and incompatibilities should be included in the Final PEIS.

**Recommendations:**

Clarify the relationship between the LOSSAN Draft EIS and this Draft PEIS prepared to analyze a high speed train system in California. Discuss other proposals by FRA for magnetic levitation technology high speed train service in California and identify integration and/or incompatibility of both projects.

AF008-32  
cont.**References**

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**SUMMARY OF EPA RATING DEFINITIONS**

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

**ENVIRONMENTAL IMPACT OF THE ACTION*****"LO" (Lack of Objections)***

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

***"EC" (Environmental Concerns)***

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

***"EO" (Environmental Objections)***

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

***"EU" (Environmentally Unsatisfactory)***

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

**ADEQUACY OF THE IMPACT STATEMENT*****Category 1" (Adequate)***

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

***"Category 2" (Insufficient Information)***

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

***"Category 3" (Inadequate)***

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

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**Response to Comments of Enrique Manzanilla, Director – U.S. Environmental Protection Agency, August 31, 2004 (Letter AF008)**

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**AF008-1**

Acknowledged.

**AF008-2**

The FRA acknowledges the interagency MOU among cooperating federal agencies in this NEPA program environmental process, the general framework for the integration of NEPA review and Clean Water Act Section 404 issues, and expectations for future steps to satisfy NEPA, Section 404 and other permitting requirements.

**AF008-3**

The lead agencies are continuing to cooperate with US EPA to address Clean Water Act Section 404 issues. The Program EIR/EIS is based on available data bases and information, and a selection of a preferred alignment between the Bay Area and Merced has been deferred. Further study of this area is planned in a separate program EIR/EIS considering a broad corridor including Pacheco Pass generally in the south and Altamont pass generally in the north before identifying a preferred alignment for the proposed HST system to connect the Central Valley to the Bay Area. The referenced designation of “aquatic resources of national importance” (which is not a statutory designation) occurred in conjunction with the approval of the first phase of the extensive Diablo Grande residential and commercial development, was based on a broad literature review, and was not based on field review of resources in the area, parts of which have been in long term ranching and grazing use. Please see Standard Response 6.3.1.

**AF008-4**

See response to Comment AF008-12.

**AF008-5**

See response to Comment AF008-13.

**AF008-6**

To represent the potential for direct impact to water and biological resources for the System Alternatives (Modal and HST), additional GIS analysis has been completed for the approximate footprint of the alternatives. For the HST Alternative this analysis identified and quantified potential direct impacts based on the representative Draft Program EIR/EIS alignments within the broader GIS envelopes used to identify the potentially affected resources. For the Modal Alternative this analysis identified and quantified potential direct impacts for the highway improvements only. Airport improvements represented a relatively minor portion of the additional right of way required and were not included for this additional analysis. The quantifications are representative of the unmitigated potential for direct impacts that could occur within the corridor. Subsequent project level engineering and environmental studies would focus on further avoidance and minimization of potential impacts. The analysis is included in Section 3.14, Section 3.15, Chapter 6, and the Summary of the Final Program EIR/EIS.

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Acknowledged.

**AF008-8**

The FRA acknowledges the regulatory context and expectations for future steps to satisfy Clean Water Act Section 404 permitting requirements. The FRA has concurred with the preferred alignments and stations and has consulted with the USEPA and USACE regarding their concurrence for compliance with the requirements of Section 404 of the Clean Water Act. Although no permit is being requested

at this time under the Clean Water Act, FRA has committed to obtaining USEPA and USACE concurrence that the selection of the preferred corridor and route (alignment) is likely to contain the “least environmentally damaging practicable alternative,” consistent with the USACE’s permit program (33 CFR Part 320-331) and USEPA’s Section 404(b)(1) Guidelines (40 CFR 230 – 233). The FRA, FHWA, EPA, USACE, and FTA executed a memorandum of understanding (MOU) outlining roles and responsibilities for preparation of the Program EIR/EIS and the integration of Section 404 of the Clean Water Act (July 2003 Federal Agency MOU for the California HST Program EIR/EIS).

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Please see standard response 6.3.1.

**AF008-12**

First, it should be noted that the length (835,296 linear feet) of potential impacted waters in the SR-58/Soledad Canyon Corridor that was listed in Section 6.4.1 of the Draft Program EIR/EIS was in error. The correct length of potentially impacted waters for this segment (Antelope Valley) is 64,562 linear feet. This has been corrected in the Final Program EIR/EIS.

Based on the data analyzed in the Draft Program EIR/EIS and additional footprint analysis described in the Final Program EIR/EIS, an alignment option more closely aligned with SR 14 to avoid impacts in Soledad Canyon would result in similar levels of direct impact to water resources overall. However, indirect impacts would be greater for the Soledad Canyon alignment option due to its proximity to the Santa Clara River. In the Final Program EIR/EIS the Authority has recommended that an alignment more closely following SR 14 be considered further in subsequent project level studies. Each section of Chapter 3 also outlines specific design features that will be applied to the implementation of the HST system to avoid, minimize, and mitigate potential impacts. See also responses regarding tunnel construction practices (AF008-25) and cumulative impacts (AF008-19-22).

Please also see standard response 3.15.6.

**AF008-13**

The Authority has identified a preferred alignment through the Central Valley, which maximizes the use of existing rail corridors, which is consistent with the Authority’s stated objectives (see page 1-4, Draft Program EIR/EIS). The Authority has identified preferred alignments that include potential “loop” lines at Stockton, and Castle AFB (for a potential Merced HST station). A new alignment is also proposed around Hanford, but no alignment is recommended through the city and no station is proposed for Hanford. Further evaluation of these three potential “loop” lines would occur at the project level. Although the Draft EIR/EIS also considered potential loop alignments at other Central Valley locations, as EPA has noted, the analysis indicated that such alignments would generally result in increased noise and visual impacts and increased impacts to water resources and agricultural lands, except at Hanford which would have only a loop alignment avoiding the town and not two alignments (i.e., one through and one around the town).

The concept of running HST express trains through Stockton was considered but rejected as part of the screening evaluation. As noted on page 2-63 of the Draft Program EIR/EIS, “Because of tight curves on the existing rail line through downtown Stockton that would limit maximum speeds, an express track outside of the urban area would be needed to provide high-speed service.” Such an express “loop” would reduce express travel times by over 7 minutes as compared to an alignment along the existing rail line through downtown Stockton. Due to existing curves and urban land use development, express trains on an alignment through downtown Stockton would require an impracticable level of new infrastructure and rights of way for dedicated service; otherwise, the express service would be subject to substantial delays by existing constraints and services.

The Castle AFB station site which has been identified as one of two preferred potential station sites to serve the Merced area, is located near, but not adjacent to the BNSF rail right-of-way. Further

analysis at the project level would lead to selection of one of these two sites for a Merced area station. In order to serve a potential HST station at the Castle AFB station site, a new "loop" alignment would (please see Figure 6.3-2B the Draft Program EIR/EIS) serve this site. However, a Castle AFB station option along the BNSF that does not include a new "loop" and a downtown Merced station option (which does not include a new loop) will also be investigated at the project specific level of study.

The HST alignment between Fresno and Bakersfield would diverge from the BNSF alignment on a new alignment around Hanford in order to maintain high-speeds because of the tight, speed restricting curves south of Laton, through Hanford, and to the south of Hanford (see Figure 2.7-6B of the Final Program EIR/EIS). An alignment through Hanford as described would add approximately 11 minutes to the estimated express travel time through the Central Valley as compared to the new alignment west of Hanford.

The Draft Program EIR/EIS did evaluate a few potential "loop" alignments not intended to maintain high-speeds, but potentially to reduce environmental impacts (Fresno, Merced, and Tulare). The Authority has not included these express loops as part of the preferred alignment. Please see standard response 6.20.5 regarding the "loop" line concept around Fresno.

Foreign HST experience (e.g., in France and Japan), the experience of the Northeast Corridor (Boston to New York to Washington D.C.), HST studies done elsewhere in the U.S., and the Authority's feasibility studies have all shown that to compete with air transportation and generate high ridership and revenue, the intercity HST travel times between major transportation markets must be below 3 hours (please also see standard response 2.9.1 and standard response 2.9.2). In order to operate HST services at high-speeds, very straight alignments with only mild curves are required. In the Bay Area, Sacramento, Los Angeles area and San Diego, existing transportation corridors are generally not straight enough over long enough distances to permit high-speed operations. Moreover, in these areas, there is generally no undeveloped land available that would allow for the development of a new "high-

speed" alignment through these areas. Serving these large urban areas is essential to the purpose and need of the HST system, therefore "bypassing" these areas is not a viable solution. New corridors through heavily urbanized areas were not considered to be practicable alternatives in this Program EIR/EIS. In California, the best opportunities for high-speed operations are primarily through the Central Valley, and through the mountain passes (please see Figure 4.3-2 in the Final Program EIR/EIS). Please see the Engineering Criteria technical report (January 2004) referenced in the Program EIR/EIS for more information regarding HST design criteria assumptions.

As noted, the Authority has identified a preferred alignment that maximizes the use of existing rail corridors, based upon the analysis in this Program EIR/EIS. For those few areas of the preferred alignment in the Central Valley which include a bypass loop (noted above), except for Hanford, further study during project-level (Tier 2) review would consider additional mitigation measures to reduce potential impacts and would consider alignment variations with and without bypasses. If a decision were made to move forward with the HST system, the Authority would seek agreements with freight operators to utilize portions of the existing rail right-of-way to the greatest extent feasible (Final Program EIR/EIS, Summary and Chapter 6A).

#### **AF008-14**

14a. Both the Program EIR/EIS and the regional technical reports identify and describe the sensitive areas in each region and corridor as part of the affected environment sections. The Program EIR/EIS includes maps illustrating general resources of concern and other sensitive areas. However, detailed maps depicting sensitive areas and specific corridor study widths are not included in the Program EIR/EIS due to the impracticality of presenting mapping over 2500 miles of HST alignment options and nearly 3000 lane miles of highway improvements in the Modal Alternative. In general, sensitive areas were identified and the envelope widths were defined to gauge impact potential and sensitivity between alignment options

considered at the regional level. Representative impacts estimated using envelopes that more closely reflect the actual footprint of the infrastructure proposed (as described in Response AF008-6 above) are compared in the Final Program EIR/EIS at the regional and system-wide level for consistency purposes. Also refer to response to Comment AF007-3 regarding the information included in the analysis.

14b. See Response AF008-6 above. The analysis of representative impacts indicates the approximate level of potential direct impacts in relation to the larger area where indirect effects are possible. However, due to the general nature of alignment location in this program level analysis it is not possible to quantify anticipated indirect impacts. The Final Program EIR/EIS discusses and describes potential direct and indirect impacts to water and biological resources in Sections 3.14 and 3.15, respectively, as well as Chapter 6 and the Summary.

#### **AF008-15**

See standard response 3.15.7 and standard response 3.15.1.

#### **AF008-16**

Along the I-215/I-15 alignment option, the HST alignment is proposed to be within the median of I-215. A portion of the Santa Margarita Ecological Reserve is located adjacent to the west side of the I-215 freeway. The HST alignment would not encroach upon the reserve. Potential for noise impacts and indirect impacts would be evaluated at the project level. See Section 3.14 for a description of the potential for impact. The I-215/I-15 alignment option crosses the Temecula Creek (an upstream tributary of the Santa Margarita River). The sensitivity of this watercourse is acknowledged and will be considered in subsequent project level environmental review. Thoughtful design practices (as described in Chapter 3 of the Final Program EIR/EIS) would avoid impacts to Temecula Creek at the crossing. Potential for wildlife movement would also be considered in the design of this crossing.

#### **AF008-17**

Acknowledged. The Authority has identified both the Carroll Canyon and Miramar Road alignment options as preferred for further project level analysis between Mira Mesa and San Diego. Either the Carroll Canyon or Miramar Road options would enable the HST system to directly serve downtown San Diego, whereas the I-15 to Qualcomm option would terminate about 8-miles from the city center at the Qualcomm Stadium (20 minutes by light rail). The Carroll Canyon and Miramar Road options would directly serve Downtown San Diego would provide better connections to the regional transit system and airport. SANDAG, NCTD, MTDB, Caltrans District 11, and the City of San Diego all support direct HST service to downtown San Diego via the Inland Empire (I-215/I-15 Corridor).

The Carroll Canyon and Miramar Road alignment options would have similar potential environmental impacts. However, the Carroll Canyon option could avoid and minimize potential impacts to Miramar Naval Air Station as compared to either the Miramar Road or I-15 alignment option. As compared to the I-15 option, the Carroll Canyon and Miramar Road options would have less potential impacts to parklands, and vernal pools (U.S. Fish & Wildlife Service, 'Vernal Pools of Southern California, Draft Recovery Plan', 1997) and less potential for growth-induced impacts, but more potential visual, cultural, and floodplains impacts.

The United States Marine Corps has raised concern regarding the Miramar Road option which is directly adjacent to the Miramar housing complex and "sensitive habitats" and has noted that any efforts related to the proposed HST system that would limit or impact on the Marine Corps ability to perform its mission would be opposed. The City of San Diego commented that building the alignment below grade should be considered from Old Town to Downtown San Diego, which would be considered in subsequent project level environmental review.

Determining the number and location of individual vernal pools and larger vernal pool complexes that would be affected by each remaining alignment is beyond the scope of this program level

environmental process. Subsequent project level engineering and environmental studies would focus on further avoidance and minimization of potential impacts to specific vernal pools and larger vernal pool complexes.

**AF008-18**

See Standard Response 3.15.8.

**AF008-19 – 22**

Please see standard response 3.17.1.

**AF008-23**

Please see standard response 5.2.1 and Chapter 6B.

**AF008-24**

Please see standard response 5.2.2

**AF008-25**

The co-lead agencies recognize that the mountain crossings, through which extensive tunneling is proposed for the HST system, are primarily undeveloped and contain many sensitive resources and areas. Therefore the Program EIR/EIS recommends the Authority consider the least unobtrusive construction methods suitable and available to avoid and/or minimize impacts in these areas. In summary, the strategy for avoiding impacts to resources through sensitive mountain areas includes these basic elements: (1) place trains in tunnels to avoid resources; (2) design the tunnels so that the need for surface access is reduced and consider the placement of that access to avoid resources and to be near existing roads; (3) build the tunnels using in-line construction techniques to reduce surface disturbance and the need for access roads; and (4) use small sites (to be restored after use) and helicopter transport of equipment for needed geological exploration and small pilot tunnels where more extensive subsurface geological information is needed. Information regarding tunneling design features and construction methods has

been included in the Summary and Sections 3.14.5, 3.15.5 and 3.18.5, respectively, of the Final Program EIR/EIS.

**AF008-26**

See standard response 3.15.9. However, project-level documentation will be required to show that mitigation would be effective to sustain regional wildlife populations and movement corridors.

**AF008-27**

Most of the tunnel lengths are in the vicinity of water-bearing ground with the potential for high groundwater inflows and pressures in localized areas. The assumption in the Draft Program EIR/EIS that the proposed tunneling would “not substantially affect groundwater resources” was predicated on application of design features and construction methods outlined in the Tunneling Issues Report, January 2004. Measures to control water include inflow grouting, waterproof membrane installation, and full concrete lining. These or similar measures would be incorporated in the tunnel design and are included in the capital cost estimates. Design features such as these are addressed in the Summary and Section 3.14.5 of the Final Program EIR/EIS.

**AF008-28**

See Standard Response 3.15.9.

**AF008-29**

The Authority is no longer considering a station at March Air Force Base.

**AF008-30**

Please see standard response 3.4.1. Identification of anticipated noise and vibration impacts to nocturnal and diurnal wildlife would require project-level documentation.

**AF008-31**

Measures to mitigate potential impacts have been added to the Final Program EIR/EIS in each section of Chapter 3: Environmental Consequences. Further clarification and description of the design features of the proposed project have been added to the Summary of the Final Program EIR/EIS and each section of Chapter 3. Discussion of transit-oriented development is found in Chapter 6B of the Final Program EIR/EIS.

**AF008-32**

See Standard Response 6.41.1.